



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/795,796

03/08/2004

Jianhua Sun

851663.465

7697

30423 7590 11/25/2008
STMICROELECTRONICS, INC.
MAIL STATION 2346
1310 ELECTRONICS DRIVE
CARROLLTON, TX 75006

EXAMINER

KHAN, ASHER R

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/795,796	Applicant(s) SUN ET AL.	
	Examiner ASHER KHAN	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/14/2008 have been fully considered but they are not persuasive.

In re page 8 to page 10, line 10, applicants cite various case laws.

In response, the examiner states that the applicants fail to argue how the facts in the cited cases relate to the facts in the instant case and thus are not persuasive.

In re page 10, line 10-24, applicants argue that Applicant Admitted Prior Art (AAPA) teaches away from the proposed modification because one of ordinary skill in the art at the time of the invention because " The DV audio signal is decoded to enable the audio to be reproduced by playback equipment, such as a video cassette player. If the shuffled coded data may be represented as $(h_1, t_2, s_1, b_1) = f(n)$, then the reverse mapping f^{-1} may be considered to provide the correct order of data. This concept is shown in Figure 4."

"However, this concept is not generally possible in practice, as the shuffling process involves modular and non-linear operations, such as $[x]$, which result in a one-to-many reverse relationship. It is therefore not generally possible to easily find a suitable reverse mapping f^{-1} ."

In response examiner respectfully disagrees. Applicant Admitted prior art may indicate it is difficult to do deshuffling due to reverse mapping, but does not state that it can not be done. Thus Morioka as modified with AAPA would deshuffle as recited in the

Art Unit: 2621

independent claims. Further, even though applicants argue the above quoted segment from AAPA section it is not recited in any of the claims.

In re page 11 to page 12, line 15, applicants argue that Morioka does not disclose, teach or suggest t in regards to the independent claims “ a single DIF frame is retrieved and that the retrieved DIF frame is deshuffled, and then, after deshuffling, another DIF frame is retrieved.”

In response, examiner respectfully disagrees. Morioka in col. 18, lines 64-67, col. 19, line 1-4 mentions that the “audio blocks are extracted from the DIF; deshuffled; converted into temporally continuous PCM audio having a compatibility with a file format which is supported by the Windows such as WAVE system or the like; and then recorded on to an audio recording HDD 1907 (or 1009)” . This sequence is obvious to one with ordinary skill in the art that each block is processed one by one because Morioka states “blocks have been shuffled and regularly mixed with each other” (Col. 18 lines 59-60).Morioka also suggests that blocks are “temporally converted into PCM audio”. Further Morioka in col. 19, lines 15-18 states that converting to PCM is done in real time thus in a sequence of one at a time to be done in real time.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-2, 7-9,12-13, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of Applicant's admitted prior art.

As to **claims 1, 12 and 19**, Morioka discloses a method of decoding audio data, encoded in multiple DIF blocks in a Digital Video (DV) frame of a DV data stream, and outputting said audio data as a PCM frame, the method comprising:

- (i) fetching a single Digital Interface Frame (DIF) block from the DV data stream, the DIF block having a plurality of bytes including a first byte and a last byte. (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);
- (ii) de-shuffling the first byte in the single DIF block to convert the first byte in the PCM frame (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);
- (iii) repeating (ii) on subsequent bytes of data of the single DIF block until the last byte in the single DIF block is processed(Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);
- (iv) writing the de-shuffled data into the PCM frame for output if the single DIF block is the last in the DV frame (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);
- (v) repeating (i) to (iv) for subsequent DIF blocks in the DV frame(Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);

Morioka does not expressly disclose that index (n) is used in deshuffling.

Applicant's Admitted Prior Art discloses that index (n) is used in shuffling (Page 3, lines 1-21; AAPA mentions reverse mapping of function $f(n)$ that is deshuffling).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine Morioka and Applicant's Admitted Prior Art. Motivation would have

Art Unit: 2621

been that all claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of invention.

Therefore, it would have been obvious to combine Morioka and Applicant's admitted prior art to as claimed in claims 1, 10 and 12.

As to **claims 2 and 13**, Morioka discloses wherein data sample in the output PCM frame is dependent on parameters of the DV data (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35). Applicant's admitted prior art discloses index (n) (Applicant's Admitted Prior art, page 3, lines 1-21).

As to **claim 7**, wherein the DV data may be encoded to one of a plurality of different video systems, such as 525/60 (2-channel or 4-channel) or 625/50 (2-channel or 4-channel) (Admitted prior art coding, 0013, 0017, 0030).

As to **claim 8**, Applicant's admitted prior art teaches claim 8 in paragraph (0017).

As to **claims 9 and 18**, Applicant's admitted prior art teaches claim function "f(n)" in paragraph 20 and in figure 4 and it would be obvious to derive inverse function from "f(n)" and using equations of paragraphs 0012. It is common to obtain inverse function from a function in mathematical derivations (0032-0033).

3. **Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of Applicant's Admitted Prior Art and in further view of KR Application No. 10-1996-0072736 to Jeong-Gyu Kim "Jeong"**

Art Unit: 2621

As to **claims 3 and 14**, Morioka as modified does not expressly disclose the parameters having track number; sync block number and byte position within the DIF block (b).

Jeong discloses wherein the parameters include:
track number (t) (14);
sync block number (s) (14); and
byte position within the DIF block (b) (Morioka, DVC, col. 7, lines 1-20) (14).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Morioka as modified with the teaching of Jeong. Motivation would have been to synchronize track number and sync block number to improve operation speed.

Therefore, it would have been obvious to combine Morioka, Applicant's Admitted Prior Art and Jeong to obtain the invention as described in claims 3 and 14.

4. Claim 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of Applicant's Admitted Prior Art and KR Application No. 10-1996-0072736 to Jeong-Gyu Kim "Jeong" and in further view of U.S. Patent 6,876,814 B1 to Le Dantec.

As to **claims 4 and 15**, Jeong further discloses wherein for t (41) and s (40) are set to zero (40-41).

Morioka as modified does not expressly disclose a first DIF block of the DV frame.

Le Dantec discloses a first DIF block of the DV frame set to zero (Fig. 3) and a DIF block counter is set to zero (Col. 11, lines 45-50)

At the time of invention it, it would have been obvious to a person of ordinary skill in the art to modify Morioka as modified with the teaching of Le Dantec. Motivation would have been to reset values to zero after obtaining certain amount of data required for processing at a time.

Therefore, it would have been obvious to combine Morioka as modified and Le Dantec to obtain the invention as described in claims 4 and 15.

As to **claims 5 and 16**, Jeong further discloses wherein s is incremented by 1 each time a new DIF block is received, and is reset to zero every nine DIF blocks (Constitution). It would have been obvious to one skilled in the art as a matter of design choice that the counter is reset to "0" after word numbers are counted by nine.

As to **claims 6 and 17**, Jeong further discloses wherein t is incremented by 1 every nine DIF blocks (Constitution and 38). It would have been obvious to one skilled in the art as a matter of design choice to increment the track number (t) by "1" every 9 sync block numbers instead of 10 sync block numbers.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2621

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHER KHAN whose telephone number is (571)270-5203. The examiner can normally be reached on 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/795,796

Page 9

Art Unit: 2621

/Marsha D. Banks-Harold/

Supervisory Patent Examiner, Art Unit 2621

/A. K./

Examiner, Art Unit 2621